



European Commission Open Science Strategy and Initiatives

Michael Arentoft

*Deputy Head of Unit for Open Science
DG R&I, European Commission*

Why is Open Science important?

Open science - sharing knowledge, data and tools as early as possible, not only between researchers and between disciplines, but also with society at large - can increase

- **Quality & efficiency of R&I**, if all the produced results are shared, made reusable, and if collaboration, reproducibility and openness are rewarded
- **Creativity**, through collective intelligence and enabling cross-disciplinary research that does not require laborious data wrangling
- **Trust** in the science system, by engaging both researchers & citizens

Open science and the pandemic: what did we learn?

- Broad consensus that **Open Science accelerates scientific discovery** and that FAIR and open data can save lives
- **Some positive trends in the uptake of Open Science practices** : e.g. early and fast sharing of results through increased use of preprints; publishers temporarily opening up some of their publications
- But more action is necessary to **make Open Science the “new normal”**
 - **Reforming the research assessment system** to provide incentives and rewards
 - **Data infrastructures** inadequate for responding to a major challenge
 - **Publishing models** need to become more transparent and agile

Transitioning towards open science as the new norm requires **coordinated action** by policy makers, research funding and research performing organizations, at national, European, and international levels: policies, rules, standards, actions

The EC commitment to Open Science

Improve *the practice* of R&I

- Openly accessible scholarly publications
- Early sharing of all research outputs
- All data FAIR, RDM
- Reproducible results
- Societal engagement and responsibility

Develop proper *enablers*

- Rewards and incentives to adopt Open Science practices, with appropriate metrics
- Appropriate skills and education, including for research integrity
- Open Research Infrastructures including the European Open Science Cloud (EOSC)
- Legal and regulatory environment for data and copyright

European Research Area

Reform of
research
assessment

European
Open Science
Cloud

Open Research
Europe publishing
platform

Copyright and
Data legislative
framework

Provisions on Open Science
under Horizon Europe

Open Science in the Horizon Europe programme



- OA to peer-reviewed publications under Horizon Europe
 - **deposition** in a **trusted repository** and **immediate open access**
 - **retain IPR** and **open licences** [CC BY (or equivalent)]
 - **publication fees (APCs/BPCs) refundable** only in **full open access** publishing venues
 - **Metadata** of deposited publications **open under CC0 or equivalent**
- OA to **research data**, in line with the **FAIR principles**
 - **Data Management Plan (DMP)** as a living document constantly updated
 - **deposit** data in a **trusted repository** (federated in EOSC if required) and link to publications
 - ensure **open access** ASAP under **CC BY** or **CC0 (or equivalent)**, unless exceptions apply
→ “as open as possible, as closed as necessary”
- OA to other research outputs (software, algorithms, protocols, workflows, models)
 - If required by the call condition: provide digital or physical access
 - It is recommended to include other research outputs in the DMP

Reforming research assessment

- Objective of the Commission: facilitate and speed up reforms to research assessment
- Towards a research assessment system that:
 - Promotes qualitative judgement with peer-review, supported by a more responsible use of quantitative indicators;
 - Considers the value and impact of a diversity of research outputs;
 - Incentivizes open collaboration and early knowledge and data sharing;
 - Rewards the diversity of tasks of researchers, and supports team science.
- Not a new objective but a new initiative
- Coherence between research and academic assessments is necessary

European Open Science Cloud



A trusted, evolving, federated infrastructure

- To enable researchers in Europe to share, process and reuse research artefacts (not only publications but also data, software and workflows)

An inclusive, open and dynamic ecosystem

- Across European, national and institutional levels
- Bringing together the European Commission, the governments (participating MS and AC) and the many R&I stakeholders involved in the ERA

A policy convergence process across borders and disciplines

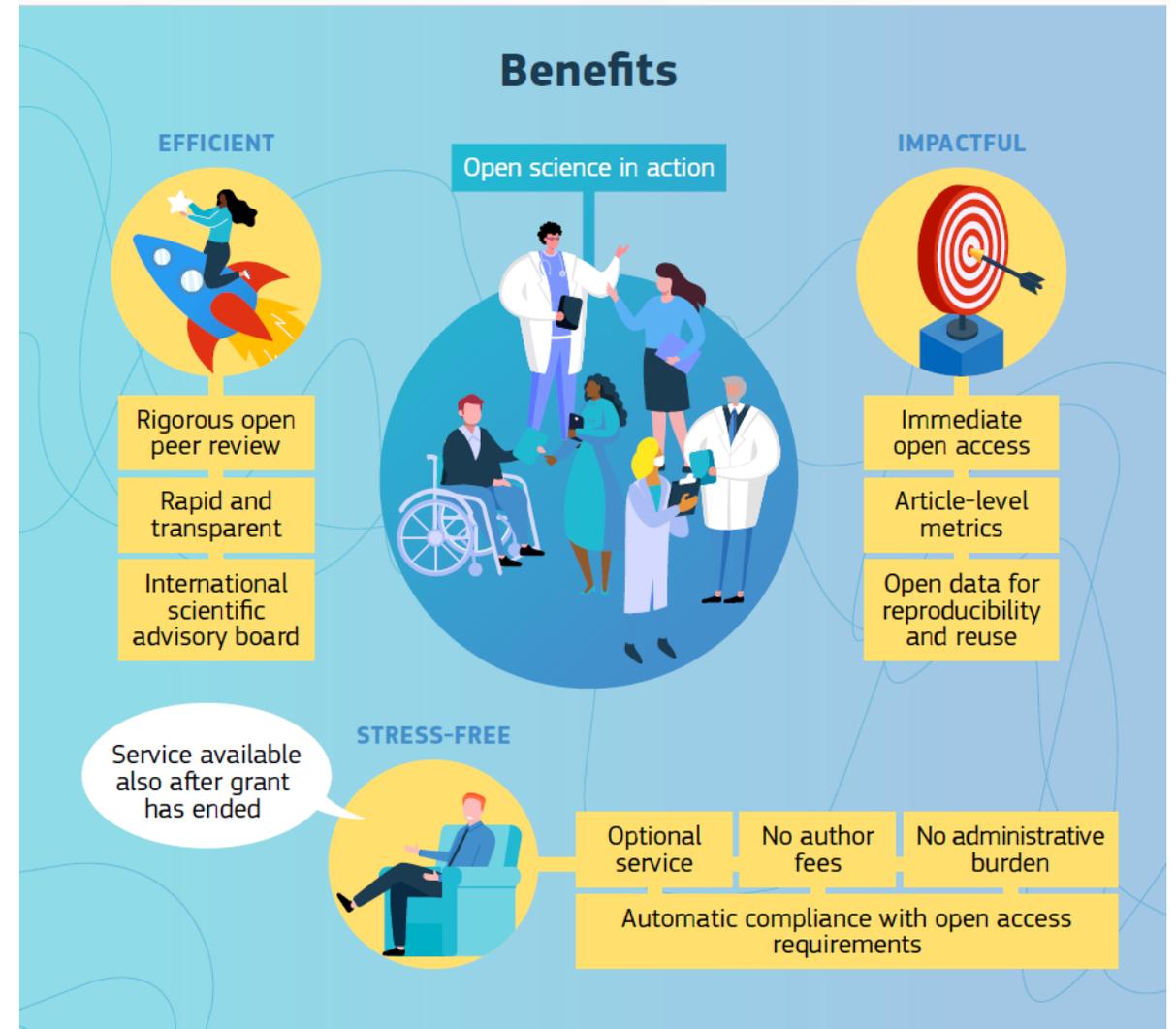
- To align policies and investments and accelerate Open Science
- To promote FAIR data management and prepare for data-intensive science
- To stimulate multi-disciplinary research, new insights and innovations, higher research productivity and improved reproducibility in science

Scholarly communication fit for modern research

- **The problem:** large percentage of publications and outputs locked behind paywalls and not accessible early or to all; largely controlled by few publishers; lack of transparency; loss of copyright
- **The future we see:**
 - Immediate open access; early sharing of outputs; open peer review
 - Research actors (authors, institutions) taking ownership of their scientific production
 - Retention of copyright
 - Diversification of publishing with participation of institutions and/or funders
 - Publishing infrastructures and services;
 - Affordable, sustainable and equitable system

Open Research Europe publishing platform

- A peer-reviewed publishing platform (not a repository)
- Optional service for our beneficiaries at no cost to them
- Post-publication peer-review model: publish first (=early+ open sharing) and review after in open review (transparency)
- Publication and review reports open access under CC BY licenses (transparency, open content)
- Launched end March 2021; doing very well, ~170 publications



Thank you



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